

## **Supplement Tables**

### **Table S1: site of enrollment**

<b><u>Site Name</u></b>	<b><u>Role</u></b>	<b><u>First Name</u></b>	<b><u>Last Name</u></b>	<b><u>Patients Enrolled</u></b>
Hospital Son Espases, Mallorca, ES	Principal Investigator	Salvador	Miralbes	N Total = 154 *SR Classic = 39/154 (25%) SR Combo = 11 Direct Asp = 104
	Sub-Investigator	Marc	Viles	
	Sub-Investigator	Rebeca	Bermejo	
	Sub-Investigator	Ángel	Calleja	
McLaren Health Care, Michigan, USA	Principal Investigator	Bharath	Naravetla	N Total = 151 SR Classic = 27 *SR Combo = 67/151 (44%) Direct Asp = 57
	Sub-Investigator	Aniel	Majjhoo	
	Sub-Investigator	Mahmoud	Rayes	
	Study Coordinator	Onishchuk	Valentyna	
	Study Coordinator	Tanya Mosley	Gardner	
	Study Coordinator	Emily	Paschal	
	Study Coordinator	Stephanie	Bruma	
Medical University of South Carolina, Charleston, SC, USA	Principal Investigator	Alejandro	Spiotta	N Total = 100 SR Classic = 0 SR Combo = 9 *Direct Asp = 91/100 (91%)
	Sub-Investigator	Jonathan	Lena	
	Sub-Investigator	Kimberly	Kicielinski	
	Sub-Investigator	Sami	Al Kasab	
	Study Coordinator	Emily	Infinger	
	Study Coordinator	Melza	Van Roijen	
	Study Coordinator	Meredith	Robinson	
Klinikum Vest Recklinghausen, Recklinghausen, DE	Principal Investigator	Christian	Loehr	N Total = 69 SR Classic = 0 SR Combo = 25 *Direct Asp = 44/69 (64%)
	Sub-Investigator	Stephan	Bossmann	
	Sub-Investigator	Jan Oliver	Kuhnt	
	Sub-Investigator	Axel	Schaefer	
	Sub-Investigator	Andreea	Cioltan	
	Sub-Investigator	Johanna	Zabel	
	Sub-Investigator	Christian	Dynak	
Uniklinik Heidelberg, Heidelberg, DE	ASSIST Registry Global Principal	Markus	Möhlenbruch	N Total = 69 SR Classic = 0

	Investigator, Steering Committee Member			*SR Combo = 64/69 (93%) Direct Asp = 5
	Sub-Investigator	Christian	Herweh	
	Sub-Investigator	Christian	Ulfert	
	Sub-Investigator	Johannes	Pfaff	
	Sub-Investigator	Alexander	Hubert	
	Sub-Investigator	Alexander	Mohr	
	Sub-Investigator	Leonie	Jestaedt	
	Sub-Investigator	Jessica	Jesser	
	Sub-Investigator	Dominik	Vollherbst	
	Sub-Investigator	Faith	Seker	
	Sub-Investigator	Tim	Hilgenfeld	
	Study Coordinator	Susanne	Bonekamp	
	Study Coordinator	Sabine	Johnson	
	Study Coordinator	Jenny	Frech	
	CT Upload	Lukas	Diebold	
CT Upload	Gabriele	Neureither		
Hospital Clínico Universitario de Valladolid, Valladolid, ES	Principal Investigator	Mario	Martínez-Galdámez	N Total = 67 *SR Classic = 45/67 (67%) SR Combo = 7 Direct Asp = 15
	Principal Investigator	Miguel Arturo	Schüller	
	Sub-Investigator	Jorge	Galván	
	Sub-Investigator	Mercedes	De Lera	
	Sub-Investigator	Carlos	Castañeda	
	Sub-Investigator	Javier	Rodríguez	
Department of Neurology, WellStar Health System, Marietta, Georgia, USA	ASSIST Registry Global Principal Investigator, Steering Committee Member	Rishi	Gupta	N Total = 53 SR Classic = 0 *SR Combo = 51/53 (96%) Direct Asp = 2
	Sub-Investigator	Ahmad	Khalidi	
	Sub-Investigator	William	Humphries	
	Study Coordinator	Stephanie	Rowe	
	Study Coordinator	Lauryn	Taylor	

	Study Coordinator	Martha	Kelly	
Rhode Island Hospital, Providence, Rhode Island, USA	Principal Investigator	Ryan	McTaggart	N Total = 49 SR Classic = 1 SR Combo = 45 *Direct Asp = 3/49 (6%)
	Sub-Investigator	Mahesh	Jayaraman	
	Sub-Investigator	Richard	Haas	
	Sub-Investigator	Radmehr	Torabi	
	Study Coordinator	Wendy	Smith	
	Study Coordinator	Gina	Merola	
	Study Coordinator	Susan	Foley	
Ghent University Hospital, Ghent, BE	Principal Investigator	Luc	Defreyne	N Total = 45 SR Classic = 1 *SR Combo = 42/45 (93%) Direct Asp = 2
	Sub-Investigator	Elisabeth	Dhondt	
	Sub-Investigator	Peter	Vanlangenhove	
	Sub-Investigator	Laurens	Hermie	
	Study Coordinator	Lynn	Huyck	
	Study Coordinator	Lien	Van Cauwenberghe	
Hospital Universitario Central de Asturias- HUCA, Oviedo, ES	Principal Investigator	Pedro	Vega	N Total = 45 *SR Classic = 45/45 (100%) SR Combo = 0 Direct Asp = 0
	Sub-Investigator	Eduardo	Murias	
	Sub-Investigator	Juan	Chaviano	
	Sub-Investigator	Jose Maria	Jimenez	
University Hospital Basel, Basel, CH	Principal Investigator, Steering Committee Member	Marios-Nikos	Psychogios	N Total = 40 SR Classic = 0 *SR Combo = 35/40 (88%) Direct Asp = 5
	Sub-Investigator	Ioannis	Tsogkas	
	Sub-Investigator	Peter	Sporns	
	Sub-Investigator	Kristine	Blackham	
	Study Coordinator	Alex	Brehm	
University Hospital Hradec Kralove, CZ	Principal Investigator, Steering Committee Member	Antonin	Krajina	N Total = 40 *SR Classic = 20/40 (50%) SR Combo = 16 Direct Asp = 4
	Sub-Investigator	Ondrej	Renc	
	Sub-Investigator	Eva	Vitkova	
	Sub-Investigator	Vendelin	Chovanec	
	Sub-Investigator	Jan	Raupach	

	Sub-Investigator	Miroslav	Lojik	
Choonam National University Hospital, KR	Principal Investigator, Steering Committee Member	Woong	Yoon	N Total = 36 *SR Classic = 10/36 (28%) SR Combo = 18 Direct Asp = 8
	Sub-Investigator	Byung Hyun	Baek	
	Study Coordinator	Eugene	Kim	
Bon Secours Mercy Health St. Vincent Medical Center, Toledo, Ohio, USA	Principal Investigator, Steering Committee Member	Osama	Zaidat	N Total = 33 SR Classic = 6 *SR Combo = 17/33 (52%) Direct Asp = 10
	Sub-Investigator	Saif	Bushnaq	
	Sub-Investigator	Bader	Alenzi	
	Sub-Investigator	Nicholas	Liaw	
	Sub-Investigator	Eugene	Lin	
	Sub-Investigator	Varun	Chaubal	
	CRC Manager	Alyssa	Bickley	
	CRC Manager	Ronda	White	
	Research Assistant	India	Bass	
	Study Coordinator	Amy	Krueger	
	Study Coordinator	Cynthia	Upham	
West Virginia University Hospital, USA	Principal Investigator, Steering Committee Member	Ansaar	Rai	N Total = 30 SR Classic = 2 *SR Combo = 26/30 (87%) Direct Asp = 2
	Sub-Investigator	Sohyun	Boo	
	Sub-Investigator	Abdul	Tarabishy	
	Sub-Investigator	Gerard	Deib	
	Nurse Practitioner	Rachel	Gregis	
	Medical Student	Abdul	Alhalak	
	Study Coordinator	Jennifer	Domico	
AOPU G. Martino, IT	Principal Investigator	Antonio	Pitrone	N Total = 30 SR Classic = 0 SR Combo = 13 *Direct Asp = 17/30 (57%)
	Sub-Investigator	Orazio	Buonomo	
	Sub-Investigator	Agostino	Tessitore	
	Sub-Investigator	Nicola	Milazzo	

	Sub-Investigator	Mariano	Velo	
	Sub-Investigator	Antonio	Caragliano	
	Sub-Investigator	Andrea	Calzoni	
	Study Coordinator	Sergio Lucio	Vinci	
The Catholic University of Korea, St. Vincent's Hospital, Suwon, KR	Principal Investigator	Dong Hoon	Lee	N Total = 28 *SR Classic = 10/28 (36%) SR Combo = 15 Direct Asp = 3
	Sub-Investigator	Seung Yoon	Song	
	Sub-Investigator	Ho Jun	Yi	
	Sub-Investigator	Jae Hoon	Sung	
	Study Coordinator	Narae	Kwon	
Ospedale San Martino, Genova, IT	Principal Investigator	Lucio	Castellan	N Total = 25 SR Classic = 0 *SR Combo = 3/25 (12%) Direct Asp = 22
	Sub-Investigator	Laura	Malfatto	
	Sub-Investigator	Nicola	Mavilio	
	Sub-Investigator	Giancarlo	Salsano	
	Sub-Investigator	Bruno	Del Sette	
AO Modena, IT	Principal Investigator	Guido	Bigliardi	N Total = 23 *SR Classic = 1/23 (4%) SR Combo = 21 Direct Asp = 1
	Sub-Investigator	Maria Luisa	Dell'Acqua	
	Sub-Investigator	Laura	Vandelli	
	Sub-Investigator	Giuseppe	Borzi	
	Sub-Investigator	Ludovico	Ciulli	
	Sub-Investigator	Livio	Picchetto	
	Sub-Investigator	Riccardo	Ricceri	
	Sub-Investigator	Francesca	Rosafio	
	Sub-Investigator	Stefano	Vallone	
Study Coordinator	Stefania	Maffei		
Hospital Clínico San Carlos, ES	Principal Investigator	Luis	López Ibor	N Total = 22 SR Classic = 2 *SR Combo = 18/22 (82%) Direct Asp = 2
	Sub-Investigator	Manuel	Moreu	
	Sub-Investigator	Santiago	Rosati	
	Sub-Investigator	Carlos	Gomez-Escalonilla	
Geisinger Medical Center, Danville, Pennsylvania, USA	Principal Investigator	Clemens	Schirmer	N Total = 21 SR Classic = 0 *SR Combo = 4/21 (19%)
	Sub-Investigator	Itay	Melamed	
	Sub-Investigator	Gregory	Weiner	

	Sub-Investigator	Oded	Goren	Direct Asp = 17
	Sub-Investigator	Christoph	Griessenauer	
	Sub-Investigator	Shamsher	Dalal	
	Nurse	Karissa	Graham	
	Study Coordinator	Katherine	Freedman	
	Study Coordinator	Angela	Whitmire	
	Study Coordinator	Chelsie	Derr	
Mount Sinai Health System, USA	Principal Investigator	Shahram	Majidi	N Total = 18 SR Classic = 0 SR Combo = 5 *Direct Asp = 13/18 (72%)
	Sub-Investigator	Christopher	Kellner	
	Sub-Investigator	Paul	Singh	
	Sub-Investigator	Johanna	Fifi	
	Sub-Investigator	Hazem	Shoirah	
	Sub-Investigator	Reade	DeLeacy	
	Sub-Investigator	Tomoyoshi	Shigematsu	
	Sub-Investigator	Pouria	Moshayedi	
	Sub-Investigator	Krisztina	Moldovan	
	Sub-Investigator	Gregory	Lock	
	Sub-Investigator	Thomas	Oxley	
	Sub-Investigator	Benjamin	Rapoport	
	Sub-Investigator	Jacopo	Scaggiante	
	Sub-Investigator	Mais	Al Kawaz	
	Study Coordinator	Sukaina	Davdani	
	Study Coordinator	Emily	Fiano	
Study Coordinator	Armand	Harb		
Study Coordinator	Serina	Deeba		
AZ Sint Jan Brugge Oostende AV, BE	Principal Investigator	Geert	Vanhooren	N Total = 17 *SR Classic = 13/17 (76%) SR Combo = 3 Direct Asp = 1
	Sub-Investigator	Sofie	De Blauwe	
	Sub-Investigator	Olivier	Deryck	
	Sub-Investigator	Bruno	Bergmans	
	Sub-Investigator	Tybault	Hollanders	
	Sub-Investigator	Heleen	Parmentier	
	Sub-Investigator	Ludo	Vanopdenbosch	

	Sub-Investigator	Kristof	Verhoeven	
	Sub-Investigator	Melissa	Cambron	
	Sub-Investigator	Johan	Ghekiere	
	Sub-Investigator	Annelies	Van Dycke	
	Sub-Investigator	Isaline	Demarcin	
	Sub-Investigator	Louise	Adams	
	Sub-Investigator	Robin	Bouttelgier	
	Sub-Investigator	Lisa	Van Doeselaer	
	Sub-Investigator	Charlotte	Vanden Berghe	
	Sub-Investigator	Arne	Hostens	
	Sub-Investigator	Louise	De Temmerman	
	Study Coordinator	Valérie	Schotte	
	Study Coordinator	Heleen	Couckuyt	
	Study Coordinator	Julie	Derous	
Klinikum Rechts Der Isar, Munich, DE	Principal Investigator	Charlotte	Rüther	N Total = 17 SR Classic = 0 *SR Combo = 17/17 (100%) Direct Asp = 0
	Principal Investigator	Monika	Probst	
	Sub-Investigator	Tobias	Boeckh-Behrens	
	Sub-Investigator	Kornelia	Kreiser	
	Sub-Investigator	Christian	Maegerlein	
	Sub-Investigator	Jan	Kirschke	
	Sub-Investigator	Silke	Wunderlich	
Study Coordinator	Maria	Bauer		
Toronto Western, Toronto, Ontario, CA	Principal Investigator, Steering Committee Member	Timo	Krings	N Total = 15 SR Classic = 1 SR Combo = 12 *Direct Asp = 2/15 (13%)
	Sub-Investigator	Patrick	Nicholson	
	Sub-Investigator	Ronit	Agid	
	Study Coordinator	Alex	Kostynskyy	
Doctors Medical Center, Modesto, CA, USA	Principal Investigator	James	Jaffe	N Total = 15 SR Classic = 0 SR Combo = 0 *Direct Asp = 15/15 (100%)
	Sub-Investigator	Chris	Neal	
	Study Coordinator	Dharati (Dorothy)	Trivedi	



Aurora St. Luke's Medical Center, Milwaukee, Wisconsin, USA	Principal Investigator	Thomas	Wolfe	N Total = 15 SR Classic = 2 SR Combo = 6 *Direct Asp = 7/15 (47%)
	Sub-Investigator	Kessarín	Panichpisal	
	Sub-Investigator	Glen	Pollock	
	Sub-Investigator	Sudeepta	Dandapat	
	Sub-Investigator	Kavit	Shah	
	Nurse Practitioner	Genevieve	Kuchinsky	
	Nurse Practitioner	Samantha	Goedde	
	Nurse Practitioner	Payton	Tepp	
	Study Coordinator	Kristopher	Rowe	
	Study Coordinator	Gary	Dennison	
	Study Coordinator	Batul	Dhariwala	
	Study Coordinator	Kaite	McPolin	
	Image Upload	Tonya	Hollrith	
Indiana University, Bloomington, Indiana, USA	Principal Investigator	Bradley	Bohnstedt	N Total = 15 SR Classic = 0 SR Combo = 2 *Direct Asp = 13/15 (87%)
	Study Coordinator	Marissa	Lowé	
	Study Coordinator	Lauren	Snyder	
CHU Brest, FR	Principal Investigator	Jean-Christophe	Gentric	N Total = 15 SR Classic = 0 *SR Combo = 15/15 (100%) Direct Asp = 0
	Sub-Investigator	Julien	Ognard	
	Sub-Investigator	Lorena	Nico	
	Study Coordinator	Géraldine	Viard	
Hospital 12 de Octubre, Madrid, ES	Principal Investigator	Eduardo	Bárcena	N Total = 15 SR Classic = 0 SR Combo = 6 *Direct Asp = 9/15 (60%)
	Sub-Investigator	Fernando	Ostos	
	Sub-Investigator	Federico	Ballenilla	
	Sub-Investigator	Jorge	Campollo	
	Sub-Investigator	Pedro	Saura	
	Sub-Investigator	Miriam	Fernandez Gomez	
Montefiore Medical Center, Bronx, New York, USA	Principal Investigator	David	Altschul	N Total = 13 SR Classic = 0 *SR Combo = 13/13 (100%) Direct Asp = 0
	Sub-Investigator	Neil	Haranhali	
	Sub-Investigator	Seon-Kyu	Lee	
	Sub-Investigator	Richard	Zampolin	
	Sub-Investigator	Allan	Brook	

	Study Coordinator	Aureliana	Toma	N Total = 11 SR Classic = 4 *SR Combo = 5/11 (45%) Direct Asp = 2
	Study Coordinator	Lavinia	Williams	
Kaiser Permanente Southern California, Los Angeles, California, USA	Principal Investigator	Lei	Feng	
	Sub-Investigator	Kuo	Chao	
	Study Coordinator	Catherine	Lui	
	Study Coordinator	Ashima	Sharma	
	Study Coordinator	Vanessa	Audea	
	Study Coordinator	Nathalie	Sanchez	
Study Coordinator	Marissa	Barron		
Advocate Hospital, Illinois, USA	Principal Investigator	Demetrius	Lopes	
	Sub-Investigator	Joshua	Billingsley	
	Sub-Investigator	Khaled	Asi	
	Clinical Assessor	Kiffon	Keigher	
	Clinical Assessor	Bridget	Cantrell	
	Clinical Assessor	Gina	Barbaglia	
	Clinical Assessor	Eric	Leadley	
	Clinical Assessor	Molly	Baker	
	Clinical Assessor	Abigail	Walters	
	Neurologist	Linda	Jiang	
	Neurologist	Pavan	Murty	
	Neurologist	Arth	Srivastava	
	Study Coordinator	Nicholas	Armijo	
	Study Coordinator	Gina	Littlejohn	
	Study Coordinator	Sherri	Velez	
Study Coordinator	Nicole	Hannigan		
Study Coordinator	Kathleen	Hesse		
Dignity Health, Rancho Cordova, California, USA	Principal Investigator	Lucian	Maidan	N Total = 10 SR Classic = 0 *SR Combo = 5/10 (50%) Direct Asp = 5
	Sub-Investigator	Geroge	Luh	
	Study Coordinator	Danielle	Hornbuckle	
	Study Coordinator	Sharon	Bluemel	
Hospital de la Princesa, Madrid, ES	Principal Investigator	Jose Luis	Caniego	N Total = 9 *SR Classic = 9/9 (100%)
	Sub-Investigator	Juan	Vega	

	Sub-Investigator	Rafael	González	SR Combo = 0 Direct Asp = 0
Kaiser Fontana Medical Center, Fontana, California, USA	Principal Investigator	Conrad	Liang	N Total = 9 SR Classic = 3 *SR Combo = 5/9 (56%) Direct Asp = 1
	Sub-Investigator	Mazen	Noufal	
	Sub-Investigator	Valerie	Wyman	
	Study Coordinator	Ashima	Sharma	
	Study Coordinator	Vanessa	Audea	
St. Mary's Medical Center, USA	Principal Investigator	Ali	Malek	N Total = 9 SR Classic = 0 *SR Combo = 8/9 (89%) Direct Asp = 1
	Sub-Investigator	Nils	Mueller-Kronast	
	Sub-Investigator	Dennys	Reyes	
	Neuro Hospitalist	Juan	Ramos	
	Neuro Hospitalist	Muneer	Hassan	
	Neuro Manager	Jennafer	Hallquist	
	APRN	Natasha	Molina	
	APRN	Sandra	Ripper-Brown	
	APRN	Charity	Denson	
	Study Coordinator	Marianne	Torres-Malaga	
Westchester Medical Center, Valhalla, New York, USA	Principal Investigator	Fawaz	Al-Mufti	N Total = 9 SR Classic = 0 *SR Combo = 1/9 (11%) Direct Asp = 8
	Sub-Investigator	Chirag	Ghandhi	
	Sub-Investigator	Justin	Santarelli	
	Sub-Investigator	Gurmeen	Kaur	
	Sub-Investigator	Christeena	Kurian	
	Fellow	Jared	Cooper	
	Fellow	Haris	Kamal	
	Fellow	Katarina	Dakay	
	Physician Assistant	Divya	Viswanathan	
	Study Coordinator	Monique	Carrero-Tagle	
	Study Coordinator	Kevin	Clare	
	Study Coordinator	Bridget	Nolan	
	Semmes Murphey Foundation, Memphis, Tennessee, USA	Principal Investigator	Lucas	
Sub-Investigator		Adam	Arthur	
Sub-Investigator		Daniel	Hoit	

	Sub-Investigator	Violiza	Inoa	Direct Asp = 4
	Sub-Investigator	Christopher	Nickele	
	Sub-Investigator	David	Dornbos	
	Sub-Investigator	Nitin	Goyal	
	Sub-Investigator	Jeremy	Peterson	
	Sub-Investigator	Radmehr	Torabi	
	Sub-Investigator	Daniel	Heiferman	
	Sub-Investigator	Kendrick	Johnson	
	Nurse Practitioner	Stephanie	Wilson	
	Study Coordinator	Amanda	Nolte	
	Study Coordinator	Stephanie	Corder	
	Study Coordinator	Valorie	Horner	
	Study Coordinator	Kamal	Lotay	
Klinikum Dortmund, Dortmund, DE	Principal Investigator	Stefan	Rohde	N Total = 8 SR Classic = 0 SR Combo = 8 *Direct Asp = 0/8 (0%)
	Sub-Investigator	Olaf	Adamczewski	
	Sub-Investigator	Stephan	Schwarz	
	Sub-Investigator	Gernot	Reimann	
	Sub-Investigator	Rachid	El Mouden	
	Sub-Investigator	Ines	Gaedke	
	Study Coordinator	Kristina	Hauptmann	
	Image Upload	Torsten	Döring	
Image Upload	Bettina	Zoeller		
HUG Geneva, CH	Principal Investigator	Paolo	Machi	N Total = 8 SR Classic = 0 SR Combo = 8 *Direct Asp = 0/8 (0%)
	Sub-Investigator	Gianmarco	Bernava	
	Sub-Investigator	Andrea	Rosi	
	Sub-Investigator	Jeremy	Hofmeister	
	Study Coordinator	Michel	Muster	
	Clinical Research Assistant	Malvina	Destro	
Memorial Healthcare System, Hollywood, Florida, USA	Principal Investigator	Hoang	Duong	N Total = 7 SR Classic = 0 *SR Combo = 6/7 (86%)
	Principal Investigator	Andrey	Lima	
	Principal Investigator	Brijesh	Mehta	

	Research Director	Doris	Alaby	Direct Asp = 1
	RN	Joy	Sessa	
	Financial Manager	Viviane	Kleva	
	Study Coordinator	Erum	Usman	
	Study Coordinator	Pamela	Shaw	
Los Robles Regional Medical Center, Thousand Oaks, California, USA	Principal Investigator	Muhammad	Taqi	N Total = 7 SR Classic = 1 *SR Combo = 6/7 (86%) Direct Asp = 0
	Study Coordinator	Nicole	Mercado	
	Study Coordinator	Anastasia	Vechera	
Valley Baptist Harlingen, Harlingen, Texas, USA	Principal Investigator	Ameer	Hassan	N Total = 7 SR Classic = 0 *SR Combo = 7/7 (100%) Direct Asp = 0
	Sub-Investigator	Wondwossen	Tekle	
	Study Coordinator	Pualani	Smith	
Azienda Ospedaliero-Universitaria di Parma, Parma, IT	Principal Investigator	Roberto	Menziozzi	N Total = 6 *SR Classic = 0/6 (0%) SR Combo = 5 Direct Asp = 1
	Sub-Investigator	Enrico	Epifani	
	Sub-Investigator	Andrea	Andreone	
	Sub-Investigator	Matteo	Fantoni	
Azienda Ospedaliera Universitaria le scotte, Siena, IT	Principal Investigator	Ignazio	Vallone	N Total = 6 SR Classic = 0 *SR Combo = 0/6 (0%) Direct Asp = 6
	Sub-Investigator	Sandra	Bracco	
	Sub-Investigator	Paola	Gennari	
Hospital Vall d'Hebron, Barcelona, ES	Principal Investigator	Alejandro	Tomasello	N Total = 6 SR Classic = 0 *SR Combo = 3/6 (50%) Direct Asp = 3
	Sub-Investigator	David	Hernandez	
	Sub-Investigator	Manuel	Requena	
	Sub-Investigator	Carlos	Piñana	
	Sub-Investigator	Marc Ribó	Ribó	
	Study Coordinator	Eila	Rivera	
Centre Hospitalier Universitaire Vaudois, Lusanne, Switzerland	Principal Investigator	Guillaume	Saliou	N Total = 5 SR Classic = 0 SR Combo = 2 *Direct Asp = 3/5 (60%)
	Sub-Investigator	Francesco	Puccinelli	
	Sub-Investigator	Bruno	Bartolini	
	Sub-Investigator	Steven	Hajdu	
	Principal Investigator	Enrico	Cotroneo	N Total = 5 SR Classic = 0
	Sub-Investigator	Andrea	Vallone	

Azienda Ospedaliera San Camillo Forlanini, Rome, IT	Sub-Investigator	Enrico	Pampana	SR Combo = 0 *Direct Asp = 5/5 (100%)
	Sub-Investigator	Sebastiano	Fabiano	
	Sub-Investigator	Luca	Bertaccini	
Buffalo University, Buffalo, New York, USA	Principal Investigator	Elad	Levy	N Total = 5 SR Classic = 0 *SR Combo = 4/5 (80%) Direct Asp = 1
	Sub-Investigator	Adnan	Siddiqui	
	Sub-Investigator	Kenneth	Snyder	
	Sub-Investigator	Jason	Davies	
	Regulatory Specialist	Jennifer	Gay	
	Study Coordinator	Mary	Hartney	
	Study Coordinator	Staci	Smith	
Thomas Jefferson University, Philadelphia, Pennsylvania, USA	Principal Investigator	Stavropoula	Tjoumakaris	N Total = 5 SR Classic = 0 SR Combo = 2 *Direct Asp = 3/5 (60%)
	Sub-Investigator	Pascal	Jabbour	
	Sub-Investigator	Michael Reid	Gooch	
	Sub-Investigator	Nabeel	Herial	
	Study Coordinator	Viola	Dallas	
William Beaumont Hospital, Royal Oak, Michigan, USA	Study Coordinator	Nadirah	Jones	N Total = 5 SR Classic = 0 SR Combo = 0 *Direct Asp = 5/5 (100%)
	Principal Investigator	Jeffery	Wilseck	
	Sub-Investigator	Chris	Kazmierczak	
	Study Coordinator	Karen	Sherer	
	Study Coordinator	Grace	San Agustin	
Allegheny General Hospital, Pittsburgh, Pennsylvania, USA	Study Coordinator	Pamela	Sloan	N Total = 4 SR Classic = 0 *SR Combo = 3/4 (75%) Direct Asp = 1
	Principal Investigator	Andrew	Ku	
	Sub-Investigator	Jonathan	Pace	
	Regulatory Coordinator	Laurie	Dennis	
	Regulatory Coordinator	Pamela	White	
	Study Coordinator	Mary	Fetter	
Research Institute, University of Kansas	Study Coordinator	Emily	Shank	N Total = 4 SR Classic = 0
	Principal Investigator	Michael	Abraham	
	Sub-Investigator	John	Ernest Madarang	

Medical Center, Kansas City, Kansas, USA	Sub-Investigator	Alan	Reeves	SR Combo = 2 *Direct Asp = 2/4 (50%)
	Study Coordinator	Carissa	Walter	
	Study Coordinator	Angie	Barton	
	Study Coordinator	Gentry	Fowler	
	Study Coordinator	Peyton	Ackerman	
Banner Desert Medical Center, Mesa, Arizona, USA	Principal Investigator	Mohamed	Teleb	N Total = 4 SR Classic = 0 SR Combo = 0 *Direct Asp = 4/4 (100%)
	Sub-Investigator	Joel	Stary	
	Nurse Practitioner	Anna	VerHage	
	Nurse Practitioner	Kirstyn	Andrade Hayes	
	Nurse Practitioner	Megan	Smith	
	Nurse Practitioner	Jennifer	Jones Berry	
	Study Coordinator	Stephanie	Blythe	
	Study Coordinator	Robert	Flynn	
	Regulatory Coordinator	Jenny	Maxon	
UC Irvine, Irvine, California, USA	Principal Investigator	Shuichi	Suzuki	N Total = 4 SR Classic = 0 SR Combo = 3 *Direct Asp = 1/4 (25%)
	Sub-Investigator	Kiarash	Golshani	
	Sub-Investigator	Ichiro	Yuki	
	Study Coordinator	Jeein	Kim	
	Study Coordinator	Chris	Nishi	
Hospital Universitario Marqués de Valdecilla, Santander, ES	Principal Investigator	Andrés	González-Mandly	N Total = 4 *SR Classic = 4/4 (100%) SR Combo = 0 Direct Asp = 0
	Sub-Investigator	Alberto	Gil Garcia	
	Sub-Investigator	Enrique	Palacio	
CHU Pellegrin Service de Radiologie et de Neuro-Imagerie, Bordeaux, FR	Principal Investigator	Xavier	Barreau	N Total = 3 SR Classic = 0 SR Combo = 1 *Direct Asp = 2/3 (67%)
	Sub-Investigator	Jérome	Berge	
	Sub-Investigator	Gaultier	Marnat	
	Sub-Investigator	Patrice	Menegon	
	Sub-Investigator	Florent	Gariel	
	Sub-Investigator	Nicolas	Pangon	

Sparrow Clinical Research Institute, Lansing, Michigan, USA	Study Coordinator	Tristan	Kerdraon	N Total = 3 SR Classic = 0 SR Combo = 1 *Direct Asp = 2/3 (67%)
	Principal Investigator	Anmar	Razak	
	Sub-Investigator	Yogesh	Gujrati	
	Sub-Investigator	Muhammad	Saleemi	
	Study Coordinator	Janelle	Dreffs	
	Study Coordinator	Sandra	Mitchell	
	Study Coordinator	Jennifer	Boak	
	Study Coordinator	Lonna	Blaske	
Legacy Emanuel Medical Center, Portland, Oregon, USA	Regulatory Coordinator	Jacki	Wilson	N Total = 3 SR Classic = 0 *SR Combo = 3/3 (100%) Direct Asp = 0
	Principal Investigator	David	Siker	
	Study Coordinator	Karla	Kummer	
Baptist Jacksonville, Jacksonville, Florida, USA	Regulatory Coordinator	Laura	Allen	N Total = 3 SR Classic = 0 *SR Combo = 3/3 (100%) Direct Asp = 0
	Principal Investigator	Amin	Aghaebrahim	
	Sub-Investigator	Ricardo	Hanel	
	Sub-Investigator	Eric	Sauvageau	
	Study Coordinator	Vickie	Melton	
	Study Coordinator	Nancy	Ebreo	
	Study Coordinator	LaNaya	Lewis	
	Study Coordinator	Miranda	Smudzinski	
University of S. Florida/Tampa General, Florida, USA	Study Coordinator	Gina	Munden	N Total = 3 SR Classic = 0 SR Combo = 0 *Direct Asp = 3/3 (100%)
	Regulatory Coordinator	Carrie	Thornton	
	Principal Investigator	Maxim	Mokin	
	Sub-Investigator	Waldo	Guerrero	
	Sub-Investigator	Shail	Thanki	
	Sub-Investigator	Kunal	Vakharia	
	Study Coordinator	Amy	DeNardo	
Study Coordinator	Jordan	Nickels		
	Regulatory Coordinator	Rachel	Karlnoski	



Stanford, Stanford, California, USA	Principal Investigator	Robert	Dodd	N Total = 3 SR Classic = 0 *SR Combo = 0/3 (0%) Direct Asp = 3
	Sub-Investigator	Nick	Telischak	
	Sub-Investigator	Huy	Do	
	Study Coordinator	Anthony	Bet	
	Sub-Investigator	Jérôme	Berge	
	Sub-Investigator	Gaultier	Marnat	
	Sub-Investigator	Patrice	Menegon	
	Sub-Investigator	Florent	Gariel	
	Sub-Investigator	Nicolas	Pangon	
Study Coordinator	Tristan	Kerdraon		
Klinikum Kassel, Institut für Neuroradiologie, Kassel, DE	Principal Investigator	Ralf	Siekmann	N Total = 2 SR Classic = 0 *SR Combo = 1/2 (50%) Direct Asp = 1
	Sub-Investigator	Kai	Koller	
	Sub-Investigator	Monika	Huegens-Penzel	
	Study Coordinator	Tanja	Reuter	
	Study Coordinator	Frank	Lückert	
Klinikum LMU München, Munich, DE	Principal Investigator	Thomas	Liebig	N Total = 2 SR Classic = 0 SR Combo = 0 *Direct Asp = 2/2 (100%)
	Sub-Investigator	Robert	Forbrig	
	Sub-Investigator	Yigit	Özpeynirci	
	Sub-Investigator	Christoph	Trumm	
	Sub-Investigator	Christian	Brem	
University Medical Center, El Paso, Texas, USA	Study Coordinator	Andrea	Jäger	N Total = 2 SR Classic = 0 *SR Combo = 2/2 (100%) Direct Asp = 0
	Principal Investigator	Alberto	Maud	
	Principal Investigator	Gustavo	Rodriguez	
	Sub-Investigator	Faheem	Sherriff	
	Sub-Investigator	Ofelia	Portillo	
Riverside Methodist – OHRI, Columbus, Ohio, USA	Study Coordinator	Israel	Alba	N Total = 2 *SR Classic = 1/2 (50%) SR Combo = 1 Direct Asp = 0
	Principal Investigator	Ronald	Budzik	
	Sub-Investigator	Nirav	Vora	
	Sub-Investigator	Peter	Pema	
	Sub-Investigator	Abdulnasser	Alhajeri	
	Study Coordinator	Megan	Heckathorne	
Study Coordinator	Katy	Groezinger		

	Study Coordinator	Heather	Bartelt	
	Regulatory Coordinator	Diane	Goodman	
	Regulatory Coordinator	Laura	Geran	
University of Massachusetts, Worcester, Massachusetts, USA	Principal Investigator	Jasmeet	Singh	N Total = 2 SR Classic = 0 *SR Combo = 0/2 (0%) Direct Asp = 2
	Sub-Investigator	Francesco	Massari	
	Study Coordinator	Noelle	Bodkin	
	Study Coordinator	Baaba	Baiden	
University of Oklahoma Medical Center, Oklahoma, USA	Principal Investigator	Ahmed	Cheema	N Total = 1 SR = 0 SR Classic Combo = 0 *Direct Asp = 1/1 (100%)
	Principal Investigator	Andrew	Bauer	
	Sub-Investigator	Hakeem	Shakir	
	Study Coordinator	April	Vaughan	
	Study Coordinator	Zainab	Al Obaidi	
Imperial College Healthcare NHS Trust Charing Cross Hospital, London, UK	Principal Investigator	Kyriakos	Lobotesis	N Total = 1 SR Classic = 0 SR Combo = 0 *Direct Asp = 1/1 (100%)
	Sub-Investigator	Abhinav	Singh	
	Sub-Investigator	Neil	Rane	
	Sub-Investigator	Dylan	Roi	
	Sub-Investigator	Gavin	Fatania	
	Study Coordinator	Sarah	Cardona	
	Study Coordinator	Tina	Stoycheva	
CHU Rouen "Charles Nicolle", Rouen, FR	Regulatory Coordinator	Lesley	Honeyfield	N Total = 1 SR Classic = 0 *SR Combo = 1/1 (100%) Direct Asp = 0
	Principal Investigator	Chrysanthi	Papagiannaki	
	Sub-Investigator	Margaux	Lefebvre	
	Study Coordinator	Sebastien	Normant	

**Table S2: Sensitivity Analyses**

	<b>SR Classic</b>	<b>SR Combination</b>	<b>Direct Aspiration</b>	<b>p-value</b>
<b>Primary Clinical Endpoint</b>				
<b>90-day mRS 0-2 vs 3-6</b>				
90-day value, with missing data set to 3-6	140 (56.7)	351 (50.4)	273 (49.8)	0.40
Last observation carried forward (LOCF)	145 (58.7)	361 (52.3)	298 (54.6)	0.41
<b>Primary Procedural Endpoint eTICI 2c or 3 vs &lt;2c on the first pass for treatment of target occlusion</b>				
eTICI with missing data set to <2c [1]	110 (44.5)	309 (44.3)	193(35.2)	0.01
[1] If eTICI at end of first pass for treatment of target occlusion is missing, eTICI is set to <2c to represent a failure.				

**Table S3: Serious Adverse Events**

<b>MedDRA System Organ Class/Preferred Term</b>	<b>SR Classic</b>		<b>SR Combination</b>		<b>Direct Aspiration</b>	
	<b>Procedure</b>	<b>Device [1]</b>	<b>Procedure</b>	<b>Device [1]</b>	<b>Procedure</b>	<b>Device [1]</b>
Any Serious Adverse Event(SAE)	16 (6·5%)	8 (3·2%)	40 (5·7%)	6 (0·9%)	23 (4·2%)	5 (0·9%)
Blood and lymphatic system disorders	0	0	3 (0·4%)	0	1 (0·2%)	0
Gastrointestinal disorders	1 (0·4%)	0	2 (0·3%)	0	0	0
General disorders and administration site conditions	0	0	1 (0·1%)	0	0	0
Injury, poisoning and procedural complications	1 (0·4%)	0	10 (1·4%)	0	1 (0·2%)	0
Nervous system disorders	12 (4·9%)	8 (3·2%)	19 (2·7%)	5 (0·7%)	13 (2·4%)	5 (0·9%)
Product issues	0	0	1 (0·1%)	0	0	0
Renal and urinary disorders	0	0	0	0	3 (0·5%)	0
Respiratory, thoracic and mediastinal disorders	0	0	1 (0·1%)	0	1 (0·2%)	0
Surgical and medical procedures	0	0	1 (0·1%)	0	0	0
Vascular disorders	3 (1·2%)	0	3 (0·4%)	1 (0·1%)	5 (0·9%)	1 (0·2%)

Values reported as n (%) are on a subject level. If a subject has multiple events, they are only counted once within a category.

[1] Only SAEs related to Stryker devices are reported.

**Table S4: Non-serious Adverse Events**

MedDRA System Organ Class/Preferred Term	SR Classic		SR Combination		Direct Aspiration	
	Procedure	Device [1]	Procedure	Device [1]	Procedure	Device [1]
Any Non-Serious Adverse Event (AE)	24 (9.7%)	3 (1.2%)	44 (6.3%)	11 (1.6%)	25 (4.6%)	5 (0.9%)
Cardiac disorders	1 (0.4%)	0	1 (0.1%)	0	0	0
Ear and labyrinth disorders	0	0	0	0	1 (0.2%)	0
Gastrointestinal disorders	0	0	1 (0.1%)	0	0	0
General disorders and administration site conditions	0	0	1 (0.1%)	0	3 (0.5%)	0
Infections and infestations	0	0	1 (0.1%)	0	0	0
Injury, poisoning and procedural complications	2 (0.8%)	1 (0.4%)	7 (1.0%)	0	5 (0.9%)	0
Nervous system disorders	17 (6.9%)	2 (0.8%)	26 (3.7%)	9 (1.3%)	15 (2.7%)	5 (0.9%)
Psychiatric disorders	0	0	1 (0.1%)	0	0	0
Renal and urinary disorders	0	0	4 (0.6%)	0	0	0
Respiratory, thoracic and mediastinal disorders	0	0	1 (0.1%)	0	1 (0.2%)	0
Vascular disorders	5 (2.0%)	0	6 (0.9%)	2 (0.3%)	1 (0.2%)	0

Note: Values reported as n (%) are on a subject level. If a subject has multiple events, they are only counted once within a category.

[1] Only AEs related to Stryker devices are reported.

**Table S5 Device malfunctions (Stryker only)**

<b>Device Malfunction/Nonconformity</b>	<b># Events</b>	<b># Subjects (n (%))</b>
Any malfunction/nonconformity	41	30 (2·01%)
Damage to device noted (kink, bend, fracture) inside of package/removing from package; device not used	1	1 (3·33%)
Device Sterility Compromised; Device not used	0	0 (0·00%)
Failure to Deliver Device at Intended Location	10	10 (33·33%)
Retriever shaped section will not fully open inside vessel	0	0 (0·00%)
Positioning issues (Difficulty re-sheathing the retriever)	2	2 (6·67%)
Retriever clot integration issue/retracting issue	3	3 (10·00%)
Resistance during advancement	4	4 (13·33%)
Poor visualization of device	0	0 (0·00%)
Device separation or fracture during procedure use	0	0 (0·00%)
Device deformation or collapse during procedure use	2	2 (6·67%)
Device difficult or could not be removed from vasculature	2	2 (6·67%)
Device kink/bend noticed during procedure use	3	3 (10·00%)
Balloon burst or unable to deflate	5	5 (16·67%)
Other	9	9 (30·00%)

**Table S6: Race/ethnicity**

	<b>SR Classic</b>	<b>SR Combination</b>	<b>Direct Aspiration</b>
Race, n (%) [1]			
Asian	22(20·2)	40(6·7)	14(3·9)
Black/African American	2(1·8)	45(7·6)	55(15·2)
Native Hawaiian/Pacific Islander	0	1(0·2)	1(0·3)
White	84(77·1)	497(83·4)	278(76·6)
Other	1(0·9)	13(2·2)	15(4·1)
Hispanic/Latino, n (%) [2]	5(4·7)	60(10·1)	53(14·8)
[1] 424 patients are missing data on race due to local regulatory requirements			
[2] 431 patients are missing data on ethnicity due to local regulatory requirements			

**Table S7: Baseline Medications**

	SR Classic	SR Combination	Direct Aspiration
Taking anti-platelets/anti-coagulants	104 (42.1%)	351 (50.4%)	251 (45.9%)
Aspirin	45 (43.3%)	210 (59.8%)	145 (57.8%)
Dipyridamole (Persantine®)	0	0	0
Aspirin & Dipyridamole (Aggrenox®)	0	3 (0.9%)	0
Clopidogrel (Plavix®)	12 (11.5%)	45 (12.8%)	33 (13.1%)
Cilostazol (Pletal®)	0	0	0
Ticlopidine (Ticlid®)	0	3 (0.9%)	0
Warfarin (Coumadin®)	16 (15.4%)	38 (10.8%)	20 (8.0%)
Direct thrombin Inhibitor	5 (4.8%)	6 (1.7%)	5 (2.0%)
Factor Xa inhibitor	21 (20.2%)	82 (23.4%)	65 (25.9%)
Low molecular weight heparin	9 (8.7%)	17 (4.8%)	10 (4.0%)
Unfractionated Heparin IV	2 (1.9%)	6 (1.7%)	4 (1.6%)
Other anti-platelet/anti-coagulant	15 (14.4%)	11 (3.1%)	16 (6.4%)
Taking IIb/IIIa inhibitors	1 (0.4%)	1 (0.1%)	1 (0.2%)
Abciximab (ReoPro®)	0	0	0
Tirofiban (Aggrastat®)	0	1 (100.0%)	1 (100.0%)
Eptifibatide (Integrilin®)	0	0	0
Other IIb/IIIa Inhibitor	1 (100.0%)	0	0
Taking other meds	170 (68.8%)	483 (69.4%)	380 (69.5%)
Statin(s)	100 (58.8%)	274 (56.7%)	213 (56.1%)
Diabetic Medication(s)	38 (22.4%)	106 (21.9%)	98 (25.8%)
Anti-hypertensive Medication(s)	142 (83.5%)	405 (83.9%)	315 (82.9%)
Anti-convulsant Medication(s)	5 (2.9%)	32 (6.6%)	23 (6.1%)



**Table S8: Hemorrhage Type (Core Lab Data):**

	SR Classic	SR Combination	Direct Aspiration
Any hemorrhage			
Yes	85(35.3%)	262(38.9%)	234(43.5%)
No	156(64.7%)	412(61.1%)	304(56.5%)
Hemorrhage Type			
HI-1	33(38.8%)	116(44.3%)	109(46.6%)
HI-2	22(25.9%)	81(30.9%)	82(35.0%)
PH-1	0	2(0.8%)	0
PH-2	3(3.5%)	11(4.2%)	9(3.8%)
RIH	1(1.2%)	0	0
IVH	0	0	0
Subdural	0	0	0
Epidural	0	0	0
SAH	34(40.0%)	81(30.9%)	53(22.6%)

Subjects can have more than one hemorrhage type.

**Figure S1: Flowchart**

